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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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THE LAKE CARRIERS' ASSOCIATION.

The semi-monthly meeting of the Lake Carriers' finance committee, took place in the offices of President M. A. Bradley, on Monday afternoon. The first business was the consideration of the report of the committee to whom was entrusted the duty of corresponding with the War Department in reference to "Collision Bend," in St. Mary's river, and to ask that the point there be cut off so as to provide a wider channel. The report consisted of the reply of Acting Secretary Grant, of the War Department, to their letter, and this was accompanied by a communication from General O. M. Poe, to whom the Lake Carriers' communication had been referred. General Poe stated that he did not think that the money appropriated for the construction of the Sault canal lock and its immediate approaches could be used for any improvement at such a distance (about fifteen miles) from the lock except in cases of emergency such as occurred when the sunken steamer Susan E. Peck lay across the channel, completely blocking navigation. General Poe added that he would be glad if any one higher in authority could construe the law so as to grant the Lake Carriers what they wished. All the dredges available, he said, were now engaged in contract work, and it would be impossible to do any work at the Bend before spring.

A communication which had been sent to the Light-House Board asking for a change in the light at Pilot Island was responded to in a letter from Commander Coffin, naval secretary of the Light-House Board, who said the matter had been referred to the officials of that district.

It was decided to increase wages again, and to give an advance of from five to seven dollars and fifty cents on the rate adopted October 6th, and the schedule was altered as follows, to take effect on Thursday, November 10th:

On steamers.	Old Wages.	New Wages.
Helpers	$15 to 20	$20 to 25.00
Firemen	40 to 45	45 to 52.50
Wheelmen	40 to 45	45 to 52.50
Lookout	40 to 45	45 to 52.50
Deck hands	20 to 25	25 to 30.00
Oilers	40 to 45	45 to 52.50
On consorts and sail.		
Second mates	40 to 50	50 to 55.00
Cooks	35 to 45	35 to 45.00
Seamen	40 to 45	45 to 52.50
Boys,	20 to 30	30 to 35.00

NOTICE TO MASTERS.—It is the desire of the Lake Carriers' association that government officers in lake districts be kept fully informed as to obstructions to navigation that are not marked on the chart. Commander Nicoll Ludlow, U. S. N., stationed at Chicago, makes an earnest request for such information regarding the district under his charge. In a letter under date of March 2nd, he says: "When time can be spared from the legitimate duties of the government vessel under my charge, I shall endeavor to locate as accurately as possible any dangers, rocks, shoals, wrecks, etc., that may be reported to me. I would like to impress upon those who discover dangers, that in reporting them, accurate ranges of well known objects are best to locate by, which can be supplemented by compass bearings corrected to give true bearings. The compass errors in some of the lake vessels are so great that little can be made out of uncorrected bearings."

Commander Ludlow is the inspector of the ninth light-house district, which includes Lake Michigan, Green bay and the Straits of Mackinac to old Mackinac Point, and dangers within this district may be reported to Com. Nicoll Ludlow, U. S. N., Chicago, Ill. The other lake districts are the tenth, comprising Lakes Erie and Ontario and that portion of the Detroit river below Grassy Island, in which reports should be made to E. T. Woodward, U. S. N., light-house inspector, Buffalo, N. Y., and the eleventh, extending above Grassy island and including Lakes St. Clair, Huron and Superior, in which reports should be made to Com. J. J. Reed, U. S. N., light-house inspector, Detroit, Mich. If all masters of vessels will carry a buoy of some kind, to be thrown overboard in case a danger or obstruction of any kind is encountered, a valuable service in this line will be secured. Such a device can be made from a small cask, line and weight.

TRAFFIC THROUGH THE ST. MARY'S FALLS CANAL, MICH.

The following official statement of traffic through the St. Mary's Falls Canal is for the month ending October 31st, 1892:

EASTBOUND.		WESTBOUND.	
Flour	702,316 bbls.	Coal	352,027 tons
Corn	181,000 bu.	Flour	81 bbls
Wheat	6,098,857 bu.	Grain	16,145 bu.
Building stone	3,382 tons	Man'fctr'd iron	7,592 tons
Copper	8,026 tons	Salt	47,405 bbls
Iron ore	594,436 tons	Unclassified f't	48,150 tons
Pig iron	7,936 tons	Passengers	642 No.
Lumber	71,574 M ft.		
Silver ore	850 tons		
Unclassified f't	13,953 tons		
Passengers	639 No.		

The east bound freight in net tons was 1,013,316, west bound 419,220 tons, total traffic 1,432,536 net tons.

THE AMERICAN YACHT LIST.

Among the most reliable technical publications, Manning's Register of American yachts for 1892, stands well to the front. This volume contains a complete register of the yacht clubs of the United States and British Provinces, with a list of club officers, names of yachts, official numbers, signals, dimensions, etc., in fact a complete classification epitome of the entire yacht tonnage. Such a work is an absolutely essential for every well-regulated club-house, and is no doubt to be found at these places. The work which was first published in 1874, is continued by Thomas Manning of New York, and reflects the highest credit possible on the proprietor, meriting, as it does, the prestige and standing of a national publication, and furnishing such data as is not obtainable elsewhere.

APPROXIMATE COAST LINE OF THE UNITED STATES.

Some figures recently published relating to the coast line of the United States stand in need of correction. The following from official sources may be relied upon as being the best information on the subject to date.

The approximate length of the coast line of the United States, including Islands, Inlets, Rivers, Sounds, etc., to head of tide water:

	NAUTICAL MILES.	STATUTE MILES.
Atlantic Coast	31,039	36,516
Gulf Coast	16,272	19,143
Pacific Coast	7,565	8,900
Alaska	15,815	18,211

These distances are made up as follows: Atlantic Coast—from Quoddy Head, Me., to Cape Sable, Fla., 2,372 nautical miles, or 2,732 statute miles. Gulf Coast—from Cape Sable, Fla., to the Rio Grande, Tex., 1,008 nautical miles, or 1,163 statute miles. Pacific Coast—from the boundary near San Diego' northward, thence through the Strait of Juan de Fuca and the Gulf of Georgia to the northern boundary, 1,440 nautical miles, or 1,663 statute miles. Alaska Territory—from Portland Channel around Alaska Peninsula, through Bering Strait to Demarcation Point, 4,180 nautical miles, or 4,818 statute miles. Aleutian Islands—Ocean and sea frontage, nautical miles 2,000, statute miles 2,305.

According to General Comstock's report upon the survey of the Great Lakes and their connecting rivers, if measured in steps of twenty-five miles the continuation is about 3,000 miles, but if the indentations of the shore and the outlines of the islands be included, the developed shore line is about 4,700 miles in length.

Assuming that General Comstock deals with statute miles, according to the military method in vogue, we have a total coast line, lakes included, of 87,470 statute miles, or 71,404 geographical or nautical miles, showing a difference of 16,066 between the statute and nautical mile distance.

A NEW ORE RECEIVING PORT.

The Lake Erie port of Conneaut, situated 58 miles east of Cleveland, and only 12 miles east of Ashtabula Harbor, has had the distinction of receiving her first cargo of iron ore. The steamer C. J. Kershaw, captain, William Mack, pushed her way over a 13-foot bar last Sunday with a cargo of Pittsburgh and Lake Angeline ore from Marquette, Mich. Capt. Mack was in Cleveland on Tuesday, and in speaking of his arrival at Conneaut, mentioned that Capt. Day, who was formerly connected with the Nypano dock in Cleveland, is superintendent of the docks at Conneaut. He also stated that there is a bar across the entrance of the port with only about thirteen feet of water over it for a distance of about forty feet. We were drawing fourteen feet, he said, but plowed through the foot of sand easily with the assistance of a tug. There is eighteen feet of water inside, and the docks, which have been put up by the Pittsburgh, Shenango & Lake Erie Railway Co., offer splendid facilities for unloading, with plenty of room for ore piles. There are three Brown and two of the Excelsior Iron Works' hoists, and everything is in shape for quick dispatch. Boats are not at present able to turn in the river, but a dredge is now at work and will soon remedy this difficulty.

NEWS AROUND THE LAKES.

CLEVELAND, O.

A heavy northerly gale and snowstorm prevailed over Lake Erie on Wednesday night.

F. W. Wheeler, West Bay City, Mich., reached this port on Wednesday to confer with the owners of some large new tonnage now under construction at his shipyards.

Colonel Jared A. Smith, Corps of Engineers, U. S. A., in charge of the rivers and harbors in this district, has with commendable promptness, attended to the dredging at the entrance to this port, made necessary through the effects of the late gales.

Work on the enlargement of the Cleveland Dry Dock is progressing fairly well, the excavation is now nearly completed and about three-fourths of the new work done, though no dry docking will likely be done this fall

The new steamyacht Wadena is now on her way from New York to Cleveland. She experienced a heavy gale off Halifax, N, S., before entering the Gulf of St. Lawrence, but beyond giving the passengers a good shaking up she came along in good seaworthy trim.

The Fire Director has sent in a requisition to the council for another fire boat for this port. The present boat has been found serviceable, and no better addition to the system of fire protection could possibly be made than in the direction suggested by Commodore Gardner, who is the present head of the service.

The steam yacht Winifred, the property of Mr. Dan P. Eells, of this city, has been sold and will go to Detroit. Mr. Eells disposed of her last week to George H. Russell and others of that city, for the consideration of $8,000. The Winifred is a modern yacht of fine lines and considerable speed. She was built ten years ago, in Brooklyn, N. Y. She measures 42.29 gross tons, and 21.15 tons net, and is 89.6 feet in length between perpendiculars by 16.4 beam and 5.3 depth of hold. She has been the property of Mr. Eells for some years, and although she has been on the market for sale for some time past, the damage she sustained several weeks ago in a collision with the schooner Harry A. Kent, when she was at once laid up, has perhaps hastened the transfer of ownership in this handsome and well known steam yacht.

The River Machine & Boiler Co. are now fully at work in their new shops and receiving a brisk patronage, their complete deck-hoisting machines are being regularly shipped to various lake ports and a stock is kept on hand to fill immediate orders besides a large amount of work on the stone-cutting machinery, of which the firm make a specialty. Numerous other stationary orders are being completed at the shops and also a fair share of the marine machinists' work of the port.

The shipyards of the Globe Iron Works Co. have now under contract upwards of a million and a quarter dollars of new tonnage and there is no space vacant to lay the keel even of a tug-boat. The two Duluth-Buffalo passenger boats building to the order of J. J. Hill represents the most valuable and costly steamers ever constructed on the lakes and will prove a masterpiece in the art of shipbuilding and marine engineering when completed. The steel freight steamer under construction for Wallace and others is of the ordinary type of first-class modern steel freight steamers and is of medium capacity, the total new tonnage now in the yards aggregates about 11,000 tons.

Work at the yards of the Cleveland Ship Building Co. on the freight monitor building for the Wilson Transit Line and the large steamer for Bradley and others is making good progress and a large number of skilled men are kept steadily at work on them. The heavy bottom repairs on the steamer Onoko are completed and she will come out of dry-dock to-day. These repairs have been executed in a smart, skillful manner and the large steamer will no doubt be ready again for the late fall trade, although it was not at first expected that the heavy damages could have been repaired before the season closed.

At a brief address given last week, Hon. Geo. H. Ely stated that the Lake Superior mining region had been opened mainly through Cleveland capital and that while only two million tons of ore was shipped through St. Mary's Falls Canal in 1882, this year would probably show a total of eleven million tons to be locked through.

The name of the man lost off the schooner Zach Chandler when she went to pieces recently near Deer Park, Lake Superior, was Frank Lenz, formerly of No. 1185 Lorain Street, and not Frank Richter, as was reported in the telegraphic dispatches. Lenz was fifty years old. He met his death by being washed off a raft. He leaves a daughter, Mrs. A. H. Cariher, of No. 85 Scott Street.

The Chase Machine Co. are just completing an order for two large punching machines each weighing 7,000 pounds and a condenser pump 12 and 15 by 15 inches for the Detroit Electric Light & Power Co. Other pump orders have been filled for the Chicago Ship Building Co., the Cleveland Dry Dock Co., W. G. Ranney & Co., of Vermillion, O., and four pumps for the Arctic Ice Machine Co. In addition to the foregoing several good sized local contracts have recently been placed with the company.

Supervising inspector general of steam vessels James A. Dumont, visited this port last Thursday, after taking some official tests at Pittsburgh, Pa., of iron and steel to be used in marine construction work. While here, the inspector general received a number of callers at the district office among whom were Captain Ennis, ship's-husband of the Michigan Central line of railroad transfer steamers across Detroit river; chief steward Thorne, of the D. & C. line of steamers, and Capt. Swainson, of THE MARINE RECORD. The principal features brought before the general in the interview, were the lack of a proper exchange of signals by through tonnage passing Detroit river, thereby endangering the entire ferry service and other local traffic. This, it was said, has now grown to be almost a custom, notwithstanding the rules on the subject. The absence of any danger or distress signals night or day known to the lake marine was also dwelt upon. The dietary list observed on the coast and ocean as compared with that offered on the lakes was spoken of at some length by steward Thorne and the code was shown to be highly favorable to the lake marine. The general, in his usual courteous manner, paid great attention to the statements evidenced and promised to take the same under consideration, especially that portion relating to the exchanging of proper signals in meeting, passing and crossing vessels, brought to his notice by Captain Ennis. Supervising inspector Westcott with the well advised energy that he has brought into the service, will no doubt see that large, powerful steamers will no longer be permitted to run wide open through the rivers, irregardless of exchanging signals with other passing craft. Supervising inspector McMasters accompanied the general in his tour over the district.

THE CHICAGO WEEKLY MARINE NEWS.

Special Correspondence to The Marine Record.

CHICAGO, ILL.—Saturday lumber freights were raised 12½ cents per thousand feet from east shore Lake Michigan ports to Chicago. Monday grain freights ruled strong on a basis of 2¾ cents on wheat to Buffalo.

The Baker submarine boat from Detroit arrived off Chicago Friday morning, at seven o'clock, in tow of the tug Swain. She went on to South Chicago, where she is to receive her machinery. The bill of the tug Swain for towing her from Detroit to South Chicago was $1,700, a fair, but larger tow bill than is usually paid for one tow on the lakes.

Captain James Rardon, who returned from Detroit Friday, stated that the entire cargo of the steamer Tuscarora had been wet, with the exception of a tier of barrels of flour. As much of the flour and wool can be saved, the loss will probably not exceed $25,000 on the cargo. The loss on the steamer and wrecking expenses will make the aggregate some $50,000. James G. Orr, of Buffalo, was appointed by the underwriters to sell the wet flour, of which there is 2,300 tons.

The steamer H. A. Tuttle, laden with coal, got on the bar opposite the life saving station on her arrival at this port Sunday night and remained on until morning, when in going up the river she got stuck at the tunnel at La Salle street for about two hours, until released by two of the I. T. L. tugs.

The new steel steamer Thomas Maytham was chartered for 115,000 bushels of corn on Saturday.

The schooners North Cape, Clipper City and Lake Forest are stripping and will go into winter quarters.

The schooner Mercury had her jibboom carried away by collision with Wells street bridge last Thursday morning, when going up the river in tow of the tug Wm. L. Ewing.

The Chicago Seamen's Union raised sailors' wages to $3.50 per day on Friday last.

Captain John Barry, of the I. T. L., left here Monday night for Benton Harbor, to look after their new tug building there by E. W. Heath, shipbuilder. Captain Barry will also visit Toledo to look after the machinery for the new tug and have it shipped to Benton Harbor.

Sealed proposals will be received by the City of Chicago until 11 a. m. Friday, November 11th, for furnishing two steam tug boats for service during the period commencing December 1st, 1892, and ending April 1st, 1893, said tug boats to ply between the Chicago river and the various lake tunnel cribs. Each tug will be required to be supplied with a steam pump and 1,000 feet of hose to pump the slush ice away from the ports at the cribs.

The steamer City of Paris, laden with grain, got on the bottom of the river Monday afternoon, at 4 o'clock, just outside of the Illinois Central slip, where she had finished loading. She remained aground until Tuesday morning at 5 o'clock, when the water in the river raised sufficiently to float her.

The stocks of grain in Chicago elevators last Saturday evening were 10,137,000 bushels of wheat, 7,045,000 bushels of corn, 2,375,000 bushels of oats, 407,000 bushels of rye and 183,000 bushels of barley; total, 20,147,000 bushels of all kinds grain, against 8,395,000 bushels a year ago. For the same date the secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada as 64,717,000 bushels of wheat, 13,272,000 bushels of corn, 8,253,000 bushels of oats, 1,275,000 bushels of rye and 2,173,000 bushels of barley. These figures are larger than the corresponding ones a week ago by 3,023,000 in wheat, and smaller by 18,000 in corn. The visible supply of wheat for the corresponding week a year ago increased 2,710,000 bushels.

The tug Robbie Dunham is receiving a new pilot house. She lost the old one by collision with Captain Dunham's schooner A. Mosher.

At Miller Bros.' shipyard the steamer Rochester was in dry dock for repairs to her shoe, the steamer Chicago for some calking, the steam yacht Gryphon to have her sea cocks packed and shut off, the steamer Robert Holland for repairs to her wheel and a new key, the schooner Restless to have a leak stopped, the steamer Conemaugh for repairs to her stern bearing, the tug S. O. Dixon for a new wheel; the schooner Mercury is at the derrick for a new foremast; the schooner S. A. Wood received a new jibboom.

WILLIAMS.

THE WEEK'S MARINE EVENTS AT BUFFALO.

Special Correspondence to The Marine Record.

BUFFALO, N. Y.—The United States steamer Michigan is expected here shortly, and will go into the Union Dry Dock for repairs.

Your correspondent has seen a letter from Capt. M. T. Carlow of the steamer St. Louis, in which he states that his vessel with the Wenona in tow made the run from Copper Harbor to Duluth, a distance of 205 miles in 20 hours and 15 minutes, or over 10 miles an hour under the disadvantage of a light headwind from Devil's Island.

The schooner Richard Winslow has gone into winter quarters here.

The Union Dry Dock Company has secured the contract to build a steel steamer for the Lake Erie Transportation Company. The new boat will be similar to the S. C. Reynolds of the same line. The Union Dry Dock Company has also contracted to build two fine wooden tugs for the Vessel Owners' Tug Company at Cleveland. One will be 84 feet long, 19 feet beam and 11 feet 6 inches deep, with a single high pressure engine with cylinder 25x28 inches. The other will be 76 feet long, 17 feet beam and 10 feet 6 inches depth of hold with a 21x24 engine. All the vessels are to be ready at the opening of navigation in 1893.

The Richmond elevator unloaded its first cargo in two years last Saturday, taking out part of the A. P. Wright's load in good shape.

Capt. Ennes of the steamer Lansing reports passing through considerable wreckage consisting of a binnacle stand, stairs and window sashes evidently of a sailing vessel on Lake Erie last week. It is thought the wreckage is from the barge Sunshine which was nearly battered to pieces in the big gale of a week ago.

The fuel scow Red Jacket, belonging to H. K. Wick & Co., struck a sunken pile Monday night while going up to the Tifft Farm in tow of a tug. The scow which was loaded with 290 tons of coal sunk. It is an unfortunate mishap to occur during the busiest part part of the season. The Red Jacket will be raised at once.

The Harbor Tug Pilots' Association have gotten out for sale the tickets for their first annual ball. They are cards of appropriate design and stamped with the seal of the association. The price is $1.

Grain and flour are coming in at a great rate again. While there is some delay in unloading, there is no blockade.

According to a survey held here the barge Fassett was damaged to the extent of $4,558 by collision with the Isabel Reed, another barge of the tug Curtis' tow. Nearly all one side of the Fassett will have to come out to repair the damages received.

Capt. W. Young of the steamer Fred Pabst, who delights in doing harbor tugs out of tow-bills, was in port again this week. He is the man who is supposed to have seen the last of the Gilcher. He scouts the idea of a collision with the schooner which was reported wrecked the same night the Gilcher went down, as the locality in which he passed through the schooner's wreckage, he says, precludes the possibility of a collision between the two boats, considering the direction of the wreck. Capt. Young advances the theory that heavy seas boarded the Gilcher, smashing her deck houses and boiler house. He says that in that same blow, 100 feet of the Pabst's bulwarks were stove in and his iron boiler house was twisted six inches by a sea which struck it.

The captain says if a second sea like that had struck his boat, he would now be at the bottom with the Gilcher. Several local vessel men state that the upper works of the finest lake steamers are too light. Capt. Young says two "nigger" firemen could butt down the deck houses of most of the lake steamers.

Coal freights continue their fall activity. Duluth rates are up to 35 cents and firm, for the present at least. There seems to be no danger of a weakening in Lake Michigan rates. The coal and grain movement bids fair to eclipse all yearly records. P.

TORONTO, ONT.

Special Correspondence to The Marine Record.

The steamer Lakeside has made her last trip to St. Catharines, after a very prosperous season's business. As part of her last work for the season, she towed the Garden City from Pt. Dalhousie to Toronto, it is intended to raise the machinery of this steamer during the coming winter also to fit her with sleeping accommodation for passengers as she will make three or four trips with parties from Toronto and St. Catharines to the World's Fair at Chicago.

The Carmona had her false sides removed. These were put on her a year ago last spring, but as they decreased her speed, her owners decided to remove them, and during the winter she will be provided with patent feathering wheels so we may look for a great increase in her rate of speed next season.

Capt. Jno. Boyd is at present in charge of the Niagara, as Capt. Morgan is laid up on account of sickness.

The ferry steamers Luella, Mascotte, Hanlan, Truant and Island Queen were in dry dock last week and have gone into winter quarters.

The annual meeting of the Hamilton Steamboat Company, has been held at Hamilton, when a very satisfactory statement of the season's business was presented and the management were highly complimented for the way in which the interest of the company had been handled. SPARTA.

FROM THE HEAD OF LAKE SUPERIOR.

Special Correspondence to The Marine Record.

DULUTH, MINN.—The season of navigation for 1892, is one of the most prosperous, barring a few late and deplorable accidents, that the upper lake marine has ever known, is fast drawing to a close, and there will not be over a couple of round trips for any of the big freighters. Freights have held well up on tonnage from here and from the ore ports and Port Arthur, which is controlled from this city, until the middle of last week, when there was a sudden break on wheat. The rate up to that time had been 4 cents, and it broke, under the influence of a lot of untaken tonnage, to 3½ cents, where it has been dull ever since. The shipments of the week were small and aggregated only about 805,000 bushels, as against receipts of nearly 1,750,000 bushels, thus indicating an increase in stocks of over 800,000 bushels, giving a total in store of about 6,250,000 bushels. This is an excellent commencement for the winter, and will give the elevator companies a nice little nucleus to work on in figuring up storage charges, for not very much of it will probably go out between now and the close. But little tonnage is chartered ahead here now. The state grain inspection department does not look for large receipts to continue for a long period, and there is a general expectation that there will be a let-up to receipts soon, perhaps in two weeks. The crop is well known to have been short, while the receipts have so far kept well up to last year's phenomenal record, so that there is not nearly so much grain back in the country to be drawn on as last winter; and as a consequence there will probably not be any such great stocks of grain here next spring as there was in the spring of 1892. This is, however, a good ways ahead and it will hardly do to figure very heavily on next spring until later in the season. Besides the wheat here, there are 135,000 bushels of coarse grains, of which nearly three-fourths are on the Duluth side the bay.

Iron ore matters are also quiet. Shipments are now up 1,120,000 tons from the docks of the Duluth & Iron Range road, and the first cargo from the docks of the Duluth & Winnipeg will go out early this week, the whale 102 having been at the dock for a week getting the load. This load comes, as I have before stated, from the Mountain Iron mine, and is the first of several cargoes to go forward this fall. Ore rates are very firm at $1.30 to Lake Erie ports and $1.25 to Chicago. Nothing is being taken out of Two Harbors except on the company's boats.

The new whale barge 127, took a load of flour out of the Imperial mill this week, 2,200 tons. She is said to be an excellent boat for the flour trade, and the second of this new fleet will load at the mill next week. The whaleback people speak of the terrible accidents of the past few weeks on the lakes as a proof that their type of vessel is the best, and claim, as they can, that the whale steamers and tows have never been compelled to put back or to stay inside on account of stress of weather. Of course many of the other steel ships of the upper lake marine are also in the habit of putting on through everything and the Jim Hill fleet particularly so, but there is a good deal of difference in the construction of the Northern liners and the style of vessels that have suffered this fall. It is blowing great guns here to-day, (Monday) and most everything in harbor is staying there, but I noticed at noon one of the Northern line ships putting out into the wind and sleet.

A local newspaper figures out that the increase in the value of vessels owned here, together with the expenditures alongt he water front in docks and dredging, will amount to the large sum of $1,050,000. Of course any such total as this is entirely misleading and ridiculously exaggerated. The dredge work of the year is put in at about $350,000, the dock building and extension at $450,000, and the added floating property at $250,000. It is safe to say that the facts will cut this total square in two, and then leave an abundant margin, and a very respectable showing as well. There has been more in the way of dredging and dock building on the Superior side the bay than on the Duluth side this year, though the reverse will probably be the case next season.

Nothing is settled as yet in regard to the proposed canal tunnel, and a council meeting is looked for to settle some of the difficulties in the way this week. The following are the estimates of the work and material on the tunnel: Steel, 18,229,000 pounds; cement, 3,030 tons; earth excavation 351,500 yards; dredging, 2,200 yards.

The longshoremen's strike is settled and the men are all back at work at the price they demanded, 40 cents an hour. Several of the big handlers of freight here and at Superior are laying plans to be rid of any necessity for the employment of dock wollopers another year, and will make public their plans before long.

The new Canadian steamer Arabian took out her first load this week. She was chartered here for wheat at Port Arthur and left there with a 42,500-bushel cargo for Montreal on a 10 cent rate.

The Great Northern road had just made a rate on coal to Washington State that will allow the coal companies here to reach the Spokane market with Ohio and Pennsylvania coal. The new rate is $12 a car, a reduction of $4. This ought to have a very important effect on the coal business at the head of the lakes, and to increase the quantity of coal handled here quite materially.

D. E. W.

THE RECIPROCAL WRECKING BILL.

OTTAWA, ONT.—In reference to the statement given out at Washington denying that the delay in issuing the proclamation bringing into operation on both sides of the line the respective acts granting reciprocity in wrecking and towing, was due to the Washington government, the question can be understood by a reference to the last official act of the Canadian government. This was the adoption by the Privy Council of the following report on the 16th of August last:

"The committee of the Privy Council have had under consideration a dispatch of the 6th of July from the Hon. Michael Herbert, her Majesty's charge d'affaires in the British legation at Washington, enclosing an unofficial note from the Assistant Secretary of State of the United States, in which he inquires whether your Excellency's government construes the act passed on the 10th of May, 1892, respecting wreckage and towage, to apply to the Welland canal, the canal improvements of the waters between Lake Erie and Lake Huron, and to the waters of the St. Mary's river and canal. The Minister of Justice, to whom the matter was referred, states that annexed to the dispatch in question is a copy of the reciprocal act, passed by Congress of the United States. That act gives the same privileges to Canadian vessels in American waters as the Canadian act gives to United States vessels in Canadian waters, but it provides that it shall be construed to apply to the Welland canal, the canal improvements of the waters between Lakes Erie and Huron, and to the waters of the St. Mary's river and canal." The Minister of Justice thinks that the object and intent of this provision are not clear. The words "wrecked, disabled or distressed" in their ordinary sense, are not applicable to vessels in canals, and in his view, the waters in the canals mentioned can in no way be deemed "waters of Canada contiguous to the United States," though possibly the approaches to the canals, and the waters between Lakes Erie and Huron, as well as the waters of St. Mary's river, may come within that description; that if the object be to secure to the United States wrecking vessels the privilege of towing salved ships or wreckage, or of carrying salved merchandise through the canals in question, such privilege would be allowed as to either United States vessels or merchandise, and that citizens of the United States have equal facilities with her Majesty's subjects in this regard. The committee, on the recommendation of the Minister of Justice, advised that "in the event of your Excellency being informed that the proclamation referred to in the act of Congress will be issued on any day named, a like proclamation under the Canadian act be issued, in order that the privileges granted to Canadian and United States wrecking respectively may take effect the same day." A copy of this order in Council was sent to her Majesty's Minister at Washington. The point is now plain. The American act is made to apply to the Welland, St. Clair and St. Mary's canals, and the Canadian act is not, the Canadian government holding that such a thing as a wreck in a canal is an impossibility, and that the act as it stands would cover wrecking in waters such as the St. Mary's river. The above quoted order in Council guarantees the right of free passage through the canals mentioned in the act of Congress of all United States vessels coming under the provisions of the Canadian act of Parliament. It now turns out that this is not considered satisfactory to the American government, and it seems possible that reciprocity in wrecking, which everybody thought was secured months ago, is as far off as ever, owing to the slight difference between the acts of the two legislatures.

FLOTSAM, JETSAM AND LAGAN.

Fire started in a pile junk in the forcastle of the barge Uranus at Toledo on Tuesday evening, doing $1,000 damages.

Hand & Johnson's tug line of Buffalo has placed a contract with the Union Dry-dock Company for a new tug to be built this winter on the model of the Townsend Davis. This makes three tugs and a steel steamer that the yard has now under contract.

Union sailors are now asking $20 for single trips from Buffalo to Toledo and Detroit. Captains on trying to get shipping masters to help them out, were told that boats which held to the Seamen's Union all summer must now help themselves.

Hon. George H. Ely is quoted as saying: "I think that inside of fifteen years we will see a canal from Lake Ontario or from Lake Erie to the Hudson river. I favor the scheme of a canal around Niagara Falls from the Niagara river to Lake Ontario at a cost of $23,000,000."

The barge Augusta with corn from Toledo, broke away from the steamer Dominion about ten miles above Long Point, Lake Ontario on Monday night. The Augusta had a hard night of it, losing two of her masts and being otherwise damaged. She was picked up by a tug and towed to Kingston next day.

The Canadian Schooner Glenora is certainly meeting with her full share of mishaps this summer. Twice fears were entertained for her safety, and she was all but given up for lost each time. On Thursday night she again broke away from her steamer twenty miles off Stannard Rock on Lake Superior and in company with the large new barge Mennedosa went scampering across the lake at her own sweet will, with her usual good fortune she has turned up again all right.

Gen. James A. Dumont, of Washington, D. C., inspector general of steam vessels inspected a lot of boiler plate being made at Homestead for use in marine boilers at Cleveland. It was found to be lower in tensile strength then was stamped on the plates. It was thought that the trouble was due to a difference in the testing machines, but this was found incorrect, as both registered the same. The only effect the test will have on that particular lot of plate will be to lower the steam pressure allowed to be carried on boats that use it in their boilers.

Notwithstanding the accounts of the depressed state of trade in England we can not infer that shipbuilding is entirely defunct as we learn from foreign exchanges that. On the Tyne fifty-two vessels are building, as against sixty at this time last year, but their tonnage is about 8,000 tons more than then. On the Wear forty vessels are in hand, compared with forty-three last year, but the tonnage again is more by 25,000 tons; and on the Tees, the fifty-two vessels now on the stocks aggregate 20,000 tons more than the fifty-six in the yards a year ago. This would appear to show a fair volume of work in shipyards on the north-east coast of England.

The sale of the steamer Charles A. Street to Ed. E. Ayer, of Chicago, had been nearly completed when Lot P. Smith, Mr. Ayer's manager, died. The deal was not consummated, and eventually the Street was sold by W. H. Loutit and others to H. M. Loud & Sons, of Oscoda, for $40,000. The Street will at once go into the lumber trade. She has been engaged all this season in carrying iron ore between Escanaba and Fairport. This is in line with other recent transfers and shows that the lumber men are securing their own tonnage to transport their products, so that even lumber freights will be nominally quoted in the future.

CORRESPONDENCE.

☞We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

PLACE THE MACHINERY AMIDSHIPS.

To the Editor of The Marine Record:

CHICAGO, November 8, 1892.

The recent terrible losses in lake shipping through the destruction of the steamers Western Reserve and Gilcher, lead me to suggest, if I may do so through your valuable paper, that possibly the fatal fault, if there be one, in the construction of the larger class of steel lake steamers, may be found in the placing of the engines so far aft instead of amidships. Building the engines amidships makes a stable and comparatively solid mass that is well calculated to afford good constructive support to both ends of the vessel, and is especially effiicacious in keeping a boat on an even keel when travelling light, and I may venture the assertion that had the ill-fated Western Reserve been so constructed she would have been afloat to-day. I have seen a good deal of steamer construction in various parts of the world, and my observations have led me to the conclusion that the method of construction adopted in most lake vessels of placing the engines so far aft, while perfectly safe for smaller craft, has an element of weakness when applied to steamers of, say, three hundred feet or more in length, that more than offsets the economy of space it affords.

THOS. BLACK.

RECORD BREAKING CARGOES ON THE LAKES.

CLEVELAND, O., November 5, 1892.

To the Editor of The Marine Record:

I desire, as one of your closely interested readers, to thank you for being so thoughtful (as you invariably are) of the vessel interests, as to publish the article entitled "Record Breaking Cargoes on the Lakes," in your issue of October 27th.

The entire editorial is very ably and well written and, to use a popular phrase, "it strikes the nail right on the head." As you correctly say, this record breaking has perhaps been carried a notch too far. I think, however, that there are readers of THE RECORD who would require abstruse arguments to establish in their minds the indisputable fact that there is something mysterious in the modeling of a ship that will enable her to carry more cargo than a sister ship of the same dimensions, weight of scantlings and draft of water; therefore, so long as the builder has no established rules or rating to conform to, there is a temptation to lighten the scantling, for the purpose of record breaking, and I for one am willing and anxious to see some good underwriters' rules of construction established for the lakes.

J. F. PANKHURST,
General Manager Globe Iron Works Co.

COL. LUDLOW AND THE LIGHTHOUSE BOARD,

The Washington *Post* treats the recent Ludlow-Heyerman difficulty as follows:

"The recent action of the Lighthouse Board in relieving Col. Ludlow and Commander Heyerman, his inspector, from further service on that board, evidently does a gross injustice to two meritorious officers. The more closely it is scrutinized the worse it looks. It is a case that clearly calls for intervention by the Treasury Department in order that a great wrong may be set right.

Col. Ludlow was charged with the duty of establishing lights on the St. Mary's river for the guidance of mariners at night. He made the necessary examinations, assuming the chart furnished by the government to be correct, and devised a plan for thirty-eight lights, whereby the safety of navigation would be assured. This plan was approved by the board. He subsequently discovered that the original chart, by reason of certain cuts made by the government after its publication, deepening the channel and increasing the number of angles, would have to be revised, and that the changed situation, of which he had not been previously aware, would require the establishment of forty-five instead of thirty-eight lights. The board made no objection and the work went on, until just about the time of its completion, and after the engagement of keepers for the lights, a peremptory order was received by Col. Ludlow to erect only thirty-eight. A formal request was made for the additional lights, only to provoke another order that there be but thirty-eight, and those in the positions originally indicated.

It then occurred to Col. Ludlow and Commander Heyerman that by omitting six lights in the lower part of the river, where they were least essential, and retaining those in the upper part, where they were indispensable, the number might be reduced for the time being to thirty-eight as prescribed. This recommendation was overruled and then came a final order to erect the lights in strict accordance with the original plan, to which Col. Ludlow protested, on the ground that such an arrangement would be misleading to navigators, and upon the two officers calling attention to the statutes against erecting such lights, they were summarily relieved and given no opportunity of explanation or defense.

The official reason assigned for their removal is not insubordination, but "failure to comply promptly with recent instructions," instructions that unquestionably involved a statutory offense.

One of the most surprising features of this extraordinary performance is that after Col. Ludlow and Commander Heyerman had been relieved and their successors appointed, General Poe and Captain Read, the latter were given full discretion as to placing the lights, and adopted exactly the same plan which Col. Ludlow had recommended, and which the board now approves.

The whole credit is due to Col. Ludlow, and the return he gets for his valuable services is a relief from duty on charges which he has no opportunity to disprove and for confronting which he cannot even have the benefit of a court of inquiry.

Another surprising thing is that the members of the Lighthouse Board who have raised this unprecedented question of discipline are the two civilian members and the three executive officers of the board, the vote upon removal standing five to three. The three officers voting in the minority give the reasons for their action in the following statement to Secretary Foster, of the Treasury Department:

The honorable, the
SECRETARY OF THE TREASURY.

SIR: We, the undersigned, members of the Lighthouse Board, and a minority thereof, beg leave to inform you that we dissent from the recent action of the board in the matter of Maj. William Ludlow, Corps of Engineers, U. S. A., and Commander Oscar F. Heyerman, U. S. N., lately engineer and inspector of the eleventh lighthouse district. It is our judgment that the explanation of these officers in respect to their recent action and correspondence with the board concerning the lighting of St. Mary's river fully exonerates them from any wrong doing or intent. We believe, on the contrary, that they have shown great professional ability and zeal in the lighthouse service, especially in the work referred to, and that they should be restored to their duties under the board. We think it due to you, to them and to ourselves to make this statement. Very respectfully, GEORGE H. ELLIOTT, Lieut. Col. Corps of Engineers, U. S. A.; JAMES H. GILLIS, Commodore U. S. N., OSWALD H. ERNST, Colonel, U. S. A.

In view of these circumstances and especially of the fact that the Lighthouse Board is not a military board, and that its proceedings are subject to review by the Secretary of the Treasury in his capacity as president, is it too much to expect that Col. Ludlow and his associate may be afforded prompt opportunity of vindication and relieved, not from a service to which they have rendered laudable contribution, but from the wrongful and injurious attitude which they have been made to occupy on the official records?"

THE ATLANTIC STEAMSHIP TRAFFIC.

The Campania, recently launched by the Fairfield Shipbuilding and Engineering Company for the Cunard Line, is 620 feet long and the largest vessel now afloat. The accompanying table, giving particulars of several of the large Atlantic liners, taken from *Industries*, London, may be interesting as showing the steps by which the advance in tonnage and displacement has been made in the vessels engaged in this traffic since 1881. From 1889 the City of Paris, together with her sister vessel, the City of New York, have held the first place, but are now relegated to the second position by the Campania, whose tonnage is 2,000 more.

Name of Ship.	Name of Builders.	Date of Construction.	Length over all.	Length between Perpendiculars.	Breadth.	Depth.	Displacement in tons.	Tonnage.	Type of Engine.	Steam Pressure.	I. H. P.	Speed in Knots.	No. of Screws.
Alaska	Fairfield Co.	1881	520ft.	500ft.	50ft.	39.5 ft.	9.500	6.900	3 crank compound.	100	10.500	18	1
Servia	J. & G. Thomson	1881	540	515	52	40.75	12.300	7.390	do.	90	10 300	16.9	1
City of Rome	Barrow Co.	1881	600	546	52 3	38.75	13.500	8,140	3 crank compound tandem.	90	11.890	18 23	1
Oregon	Fairfield Co.	1883	520	500	54	39 75	12,500	7.375	3 crank compound.	110	12 380	19	1
America	J. & G. Thomson	1884	459	432	51	37.5	9.550	6.500	do.	95	7.354	17.8	1
Umbria	Fairfield Co.	1884	520	501.6	57.2	38 2	13.300	7 718	do.	110	14.320	19	1
City of Paris	J. & G. Thomson	1889	560	527	63	39 2	17 270	10.500	3 crank triple.	150	20.600	21.8	2
Teutonic	Harland & Wolff	1890	582	566	57.8	39 4	16.740	9,860	do.	180	18.000	21	2
Normannia	Fairfield Co.	1890	520	500	57 25	38	——	8 716	do.	160	16.000	20 5	2
Campania	do.	1892	620	600	65 25	41.5	18,000	12.500	do.	160	30.000	——	2

PROMOTION IN THE NAVY.

Park Benjamin, in Harper's Weekly.

The advance of a naval officer through the different grades is due solely to the retirement or resignation of of his comrades above him. Individual merit finds no short road to the top. Ability, however, conspicuous, must remain in subordinate positions so long as the superior ranks are filled by law. As a consequence, many of the ablest men leave the service in search of wider fields of activity; others are content to remain and achieve high reputations in special studies taken up *con amore*, and with practically no hope of material reward in the shape of professional advancement; others hold on sometimes for the purely sentimental reason that they are unwilling to yield up the semi-public pace andl accompanying social advantages so long worked for in exchange for civilian nonentity, or for the more material consideration that the snug harbor and certain pay of the navy seem safer and surer than to embark in the struggle for existence in the great outer world, especially when one has given "hostages to fortune" in the shape of a proverbially large family. But all are alike human, and all, therefore, are more or less influenced by the knowledge that the admiral's stars will com to him who lives long enough, and behaves himself and does routine, as surely as to him whose brilliant achievements command general admiration. The wonder is that so high an average standard of ability, and such implicit devotion to duty as exists, can obtain, under such conditions. But the best work of any man, or any body of men, cannot be had without strong incentive on the one hand, and freedom to compete on the other. Natural selection is a natural law. Our mistake lies in the apparent premise that this in the navy can somehow be controlled by acts of Congress and the Blue Book. Nevertheless, the *personnel* of the navy is not expected from the general scheme of the universe, and progress therein to higher standards can no more be made consistently with artificial regulation of the individual abilities than can great oaks be induced to grow better on trellises than in the freedom of the forest.

THE COAST LIGHTSHIPS BUILT BY F. W. WHEELER & CO.

It is gratifying to note that the important industry of shipbuilding on the lakes engages the attention of our foreign contemporaries.

In a recent issue of *Industries*, London, England, we find an illustrated article giving a most complete discription of the Cornfield Point Light Vessel recently built by F. W. Wheeler & Co., of West Bay City, Mich., and numbered 51 by the Light-House Board. The article quoted is as follows:

"No. 51, one of the four vessels of this description constructed by the above firm were designed by Mr. Walfrid Sylven, chief consulting and constructing engineer to the United States Light-House Board. They were ordered by Act of Congress, 1890, and the contract was secured by F. W. Wheeler & Co.—the lowest bidders—for £42,800 for the four.

These vessels are constructed wholly of iron, and are the first constructed for the United States Government of that material. "No. 51" is the best equipped vessel of her class afloat, and demands attention as the first light-vessel for ocean service built on the Great Lakes. She is constructed of the best American iron, has a bilge keel extending 50 feet each side, and is divided into five water-tight compartments by bulkheads extending to the main deck. Her principal dimensions are as follows—length over all, 118 feet 10 inches; breadth, moulded, 26 feet 6 inches; and depth of hold, 14 feet 6 inches; light draft of water, 8 feet, with stores, etc., on board, 9 feet 6 inches; displacement about 350 tons; and her speed is 9 miles per hour. Messrs. F. W. Wheeler & Co. also constructed the fore-and-aft compound engines for these vessels, the cylinders being 14 inches, 24 inches by 16 inches stroke. Two cylindrical single-ended boilers of the return tubular pattern, 8 feet diameter, 9 feet long, each having ninety-six 3-inch tubes, furnish the steam required. They are provided with a Keiller circulator, and are fed from either the sea or tanks by a duplex pump. Each boiler has a 36 inch Fox's corrugated furnace. The propeller is 6 feet diameter.

A peculiar feature of these vessels is their center hawse-pipe made at an angle of 45 degrees through the stem, to reduce the stress on the cables when riding in a heavy sea. The heaviest cable is 2½ inches diameter, the others 2 inches, and 250 fathoms have been supplied. These cables are worked by a steam windlass constructed by the American Ship Windlass Company, Providence, Rhode Island, steam for which is supplied by a donkey boiler. Elastic chain stoppers are also fitted. Three anchors—one mushroom of 5,000 pounds weight; one bower, 2,500 pounds; and one harbor anchor, 2,000 pounds—form an important part of the vessel's equipment. These vessels were originally designed to have single-cylinder engines, but as the other light-vessels often broke from their stations in a heavy gale, which caused great delay and damage in searching for them and placing them in position again, the government decided to supply them with compound engines.

"No. 51" is to be lighted with electricity, and is the first Government light-vessel to have this system of lighting. The plant is placed in an after-deck house on the main-deck, and was constructed in New York under the supervision of Major D. P. Heap, U. S. Corps of Engineers. It consists of two horizontal high-speed engines of 8 horse power, with 70 pound steam pressure, from which power is transmitted by two Evans friction cones to two compound-wound Thomson-Houston dynamos of 60 amperes and 110 volts, supplying energy to 8 100 candle-power and twenty 16 candle-power lamps, the former lighting the two signal lanterns on the masts 49 feet above the deck, and the latter distributed throughout the ship. The signal flashes are regulated by a make-and-break apparatus in the engine room, and in case one of the dynamos become disabled the engineer can, by opening a valve and pressing a button, throw the other into instant action. These dynamos are automatically regulated, so that three-fourths of the lamps may be extinguished without change of speed. "No. 51" is rigged with two 67 feet masts, which carry the lights, day marks and sails; "Nos. 52," "53', and "54" have special trysail masts. Steam is used throughout for heating the four officers' staterooms and the crew's space for fourteen men. Everything is finished in a plain and substantial manner. All parts of the vessel are connected by a complete system of bell communication and speaking tubes. Sea-water is distilled by Baird's evaporator and condenser, and an aerator and filter are provided with circulating pumps having a capacity of 2,500 gallons per day. Fresh water is stored in six wrought-iron tanks of 4,500 gallons capacity. The fog whistle, which is 12 inches diameter, is worked by a a machine driven by a horizontal non-condensing engine, which, though worm gearing, turns a cam wheel 20 inches in diameter. The cams work against a small roller in the middle of a lever, one end of which is attached to the balanced whistle valve, the distance between the cams determining the interval between the blasts. This whistle is audible on a calm day for a distance of fifteen miles."

BIG WAR SHIPS.

The Royal Sovereign, the largest warship in the world, has just made her trial trip with the officers of the British admiralty on board. Her displacement is 14,150 tons, and her speed, which was kept up for three hours, was 18.1 knots per hour. The largest and fastest vessels of the French navy, the Admiral Baudin and the Formidable, are 3,000 tons less and their speed is three knots less. Our battleships—the Indiana, the Massachusetts and the Oregon—are 4,000 tons less, and their estimated speed is three knots less. Italy has five ships afloat whose displacement is nearly as large as that of the Royal Sovereign and whose speed is supposed to be the same.

Neither Russia nor Germany nor Austria nor Spain has any ships that will compare in size or effectiveness with the Royal Sovereign. The crack ship of the British navy, the Inflexible, is nearly 3,000 tons less in displacement than the Royal Sovereign. She is 320 feet in length and 75 feet beam, as against 380 feet in length and 75 feet beam in the Royal Sovereign. The great Italian ships are 400 feet long by 74 feet beam. But when we turn to the crack merchant steamers of the day we find that the City of New York and the City of Paris which have just passed under the American flag, are 500 feet long by 63 feet beam. They are 200 to 260 feet longer than the types of English and French battleships before the Royal Sovereign and 12 feet narrower. In them the proportion of beam to length is 8.89, while in the battle ships it is less than 6, or about the proportion which was usual in the ships built in the forties.

The Royal Sovereign's armament shows in a marked degree the progress of naval gunnery. The Italian, Italia, Duilio and Dandolo, which were built between 1876 and 1884, carry 100-ton guns, the British Inflexible carries 80-ton guns, the French Admiral Baudin and the Formidable carry 75-ton guns, but the Royal Sovereign only carries 67-ton guns and our three battleships carry 45-ton guns. The reason of the reduction in the size of the gun is, first, the difficulty of handling enormous masses of metal with sufficient rapidity, and, secondly, the apprehension that no vessel can be built so as to endure the concussion of the fire of very heavy guns without her plates splitting and parting. The best opinion now is that guns not exceeding forty-five tons in weight would be more effective in action than guns exceeding that weight. There is very little doubt that the Italia and Duilio would wrench themselves apart in action long before they had destroyed their enemy. The projectile thrown by the Royal Sovereign will weigh 1,200 pounds, and that thrown from our Massachusetts 1,000 pounds. Such missle will do quite as much damage if they strike an object as a missle weighing a ton.

TOLEDO, ANN ARBOR & NORTH MICHIGAN TRANSFER STEAMER

The steamer Ann Arbor No. 1. left the yards of the Craig Ship Building Co., at Toledo, O., last Saturday to enter upon her winter's work, across Lake Michigan, between Frankfort, Mich. and Kewaunee, Wis. Railroad car ferry service will be kept open across the lake with two large and powerful steamers. No. 1 is under the command of Capt. Ed. Kelley, who is one of the most widely known and experienced masters on the lakes.

STILL MORE SHIPBUILDING.

We announced last week the closing of a contract with the Union Dry Dock Co., of Buffalo, by A. W. Colton, manager of the Lake Erie Transportation Co., for a new steel steamer with a capacity of 100,000 bushels of wheat or a 3,000 ton ability, for $165,000. In addition to the foregoing, the Vessel Owners' Tug Co., Cleveland, O., has placed an order for two large tugs, to be delivered on the opening of navigation next spring, and still order is being figured on by the Union Dry Dock Co.

IRON ORE DOCKS.

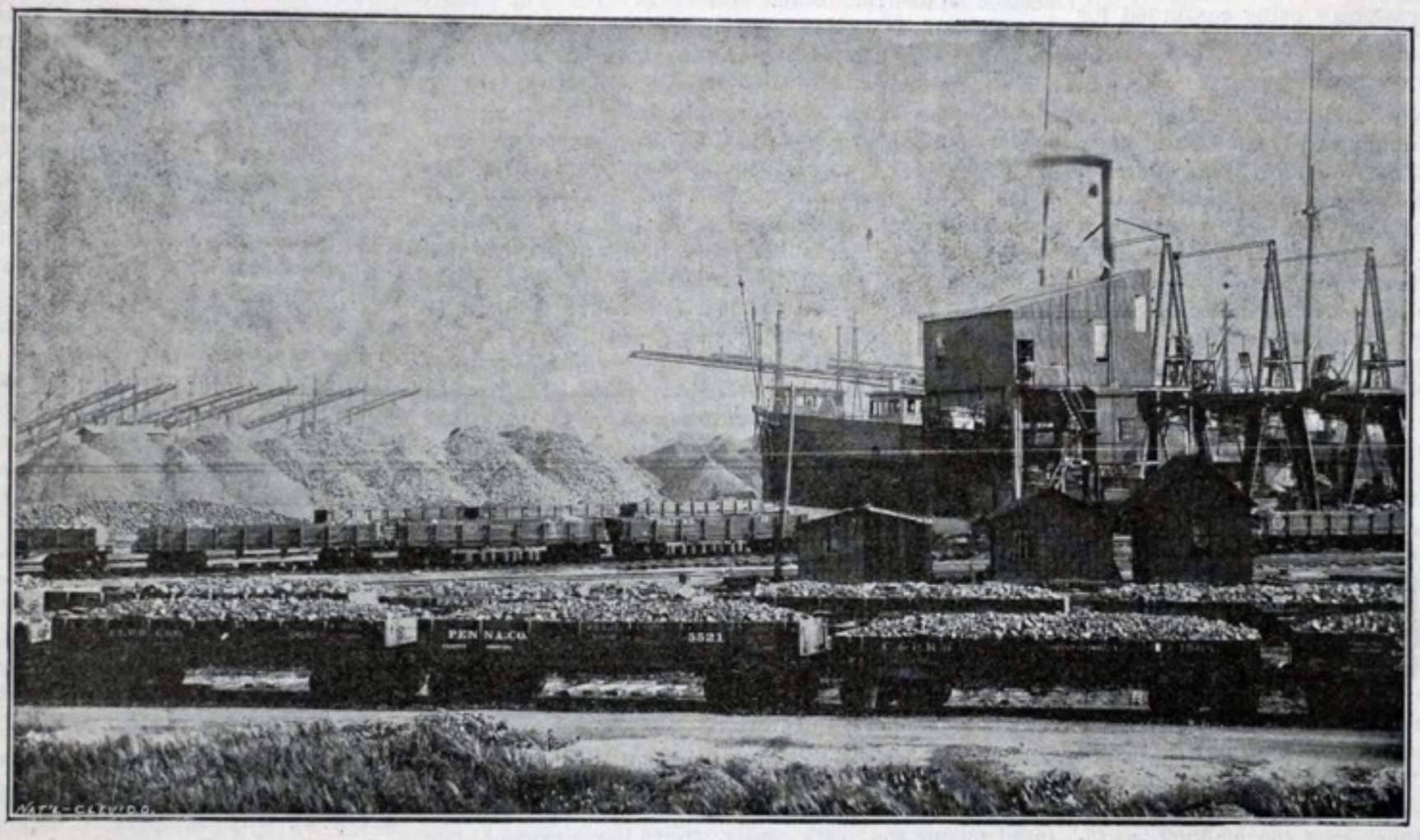
(Illustrated.)

The accompanying illustration gives a partial view of the ore and coal docks at Cleveland, O., showing the method of storing the ore on the quays and the machines used for discharging same from the vessels.

Only about five years ago the enormous receipts of ore at Cleveland, as well as other ports, was chiefly discharged by the slow, laborious process of hand labor, and the piles of ore, as shown in the illustration, were wheeled along on high staging by hand-barrows and then deposited, though it was impossible to reach the height of the present stock piles with such primitive appliances. The introduction of the McMyler, Excelsior and Brown hoists (the latter rigs being shown in the cut) brought about a revolution in the matter of discharging ores, economized dock space and furnished the best known means of discharging heavy bulk cargoes.

The receipts of iron ore at the port of Cleveland shows a creditable increase over the previous year, although during the early part of the season of 1891 the docks were handicapped by the strike of the ore handlers, as up to the end of June, 1891, only 105,015 tons had been received, while at the same date of the present year, the receipts aggregated 567,581 tons. This difference was also caused in part by the fact that the present season opened about six weeks earlier than last, and during these first few weeks navigation was impeded by inclement weather no more than during any other period of similar length at that time of the season of navigation. For July the receipts were 351,828 tons, as compared with 290,438 tons during July, 1891, and for August, 346,262 tons, a slight decrease as compared with last year, the record for August, 1891 being 349,584 tons. For September the figures are 292,774 tons, as compared with 325,059 tons for the corresponding month last year. This apparent falling off is a result of the fact that chartering was very heavy during August and September, 1891, vesselmen being somewhat anxious to make up for time lost, and dealers desiring to get the bulk of their ore down before the big wheat movement should begin. For October the receipts were still smaller, being 217,067 tons against 178,251 tons for October 1891. Thus the total receipts up to the 1st of the present month aggregated 1,774,511 tons as compared with total receipts of 1,248,347 tons up to the same date last year and 1,375,144 tons for the entire season of 1891.

When it is considered that men are still in active business who remember the first shipment of ore arriving at the port of Cleveland, the present volume of trade may well be termed enormous in its growth and importance. The Hon. George H. Ely, than whom no more precise statistician can be quoted, places the total investments in Lake Superior ore mining and distribution at $175,394,985, of which amount $12,392,880 is placed in docks and equipments at ports between Toledo and Buffalo, including Cleveland, no less than $26,343,617 being invested exclusively in means of transportation to mills and furnaces from Lake Erie ports. From a letter recently received by Mr. Ely from Gen. O. M. Poe it is estimated that eleven million tons of ore will be locked through the St. Mary's Falls canal this season, and in 1889 and 1890 iron ore formed more than 50 per cent. of the total freight.



THE PENNSYLVANIA CO.'S ORE DOCKS, CLEVELAND, O.

(Courtesy of J. F. Ryder & Co., Photographs.)

To the modern dock equipments as much as to any other source, may be ascribed the phenomenal and gratifying increased shipments of a commercial product which has, as we have said, grown from nothing to a twelve months' output, equal to 16,500,000 tons, within the limited space of a man's business experience.

CHANGE IN THE LIGHT-HOUSE BOARD.

The change in the Light-House Board by which Commander Evans succeeds Capt. Coffin as naval secretary involves no reflection whatever on the latter officer. He was detached at his own request, for purely personal reasons. He was a general favorite in the Treasury Department, and his retirement from the light-house service would be a matter of genuine regret to his superiors and his associates were it not for the general satisfaction at at the selection of Capt. Evans as his successor. The Washington *Star* says: "It can be stated on authority that the controversy between Col. Ludlow of the army and the board had nothing whatever to do with Capt. Coffin's detachment.

LARGE ADDITION TO THE UNITED STATES NAVY.

In the next three months the navy will be increased by the addition of six new vessels, in commission and ready for service, representing nearly as many different types of war ships of modern construction, and all fine specimens of naval architecture and fighting machines.

This will be the first time since the beginning of the building of a new navy that so many new vessels have been placed in commission practically at one time, and it will be the largest increase it has received from a numercial standpoint in one year since the war. The Bancroft, the new practice ship, will be placed in commission early in December and sent to Annapolis for duty. The monitor Monterey, at Mare Island navy yard, will be put in active service January 10, and the gunboat Machias at Bath, Me.

The large twin-screw armored cruiser New York, the pride of the Secretary and of the Navy, will fly her pennant January 31, and on the same day the Detroit will be placed in commission. On February 28, the Montgomery will receive her complement of officers and men and be ready for active service. All of these vessels, except the Monterey, will be kept on Atlantic station until after the naval review in New York, when they will be sent to different stations. To fit out all these vessels will necessitate sending many officers to sea now on shore duty and waiting orders, and will further draw heavily upon the enlisted force of the service, which is hardly ever up to its full quota.

How to meet this demand for men to man the new ships, in view of the limited number allowed by law, is a perplexing question, which the department will have to deal with, and it would not be surprising if some of the ships will fall far short of receiving their full complement of sailors when they are placed in commission.

RECENT PATENTED MARINE DEVICES.

Dredging implement, J. Hatch, San Francisco, Cal., No. 485,193.

Grain elevator, J. A. L. Wilson, Woodland, Ill., No. 485,520.

Fed water heater, C. C. Worthington, Irvington, N.Y.

Exhaust head, J. L. Horning, St. Louis, Mo.

Lobster shipping apparatus, A. McGray, Yarmouth, Canado.

Piston packing, F. N. Ethridge, Boston, Mass.

Chain propellor, C. W. & C. H. Bergold, Canton, Ohio.

Revolving stoker, N. W. Pratt, Brooklyn, N. Y.

Construction of hulls of vessels, C. D. Doxford, Sunderland, England.

Appliance for raising sunken vessels, A. H. Tyler & J. S. E. De Vesian, London, England.

The Marine Record,

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CLEVELAND, O., NOVEMBER 10, 1892.

THE recent contracts for new tonnage placed with the Union Dry Dock Co. of Buffalo, places every iron and steel ship-building yard on the lakes with work enough on their hands to keep them busy until the season of navigation opens in 1893. Ship-builders on the Clyde are in almost destitute circumstances, notwithstanding, they have almost the whole world to build for, or to accept contracts from, but, the building craze is at a discount everywhere except in the United States and is in a notably prosperous condition on the Lakes, a gratifying feature, which there is every indication of being continued for some time to come.

SHIPBUILDERS of the lakes ought by this time to have realized that the most seemingly extravagant addition to their plants, both in machinery, boiler making and ship construction, are positively less than the future demands. Already at least two of the oldest and best known shipyards have launched out in this respect apparently a decade in advance of present requirements, yet, we venture the opinion that all present conditions of advancement will be found inadequate within a series of three years from date. The earlier it is recognized that the lake marine is still in its infancy, the better it will be for the future prosperity of north-western commerce, from ship construction to freight transportation.

THE seamen on the lakes during these hard fall storms are worthily entitled to the advanced wages granted by the finance committee of the Lake Carriers' Association, to take effect to-day. Although the life is a hard one, and men become inured to the weather and the probable dangers they may have to overcome, yet there is an untold satisfaction in knowing that the price of their work and exposure is not rated at too low a figure in so far as dollars and cents are concerned, and there is still a greater recompense for the extra hardships endured in the added comforts which better pay may provide for the family of the bread-winner after the ice king has resumed his sway over the lakes.

OVER fifty steamers are now lying idle in the River Tyne, in England, and with the Baltic trade practically at an end for the season, there seems no prospect of any freights being offered during the entire season. On the contrary, indeed, a considerable addition to this idle fleet is inevitable. So says the *Shipping World*, under date of November 1st, and the fact remains that no inconsiderable fleets are also tied up at several other ports in the United Kingdom. The question presents itself at this time, how long would it take these idle fleets of cheap-running "tramps" to gobble up all the domestic tonnage of the United States if they were permitted to enter the coasting, lake and river trade of this country? If the barriers were once let down, this fleet of tramps would paddle their way across the Atlantic and wriggle through the St. Lawrence system of canals in sections to be hammered together again on Lake Erie and kept sailing at starvation rates until every American steamer was tied up to her dock. The cupidity of the British shipowner has driven the builders to construct 3,000-ton "iron tanks" with as little dead rise and as full at the ends as the steamers built specially for the lake trade. This was done irrespective of their seaworthy qualities, to cut into the shoal water trade, and well have they accomplished the object they had in view, for nothing else but these cheap tramp tanks are found in our Southern ports. No objection, however, can be raised to this, as they but carry our products to their merchants in their own bottoms, but to give them free coasting privileges, as they so earnestly desire, would simply be suicidal, in so far as American tonnage is concerned.

THE NAMES OF MISSING SEAMEN.

We have from time to time pointed out the barbarity of keeping people in suspense regarding the names of lake seamen who may have shipped on vessels reported overdue, abandoned or foundered. The many total losses brought about through the gale of October 28th, still leaves the list of the lost uncompleted and there is little or no probability that the individual loss will ever be accurately known.

This uncertainty regarding the names of crews, deserves the closest attention of the official whose province it is to watch over the national interest of the mercantile marine and the commissioner of navigation will be relax in his duties if another season is allowed to go by without this serious omission in the laws governing the lake marine being remedied.

The officers of vessels, as a rule, remain all season in the same bottom, and there is seldom any doubt experienced regarding the names of engineers and mates, but the rest of the crew change frequently, a complete exodus as it were, taking place in many cases towards the fall, as a result, untold suspense and anxiety is felt among a large circle of people when the news is wafted along the wires that a serious casualty has taken place, and for weeks thereafter, doubts are experienced regarding the safety of relatives and friends engaged in the sailing industry on the lakes, thus filling many homes with sorrow, where no grief would need to have existed if the names of the men composing the crew could have been promptly and positively obtained.

The fact that men must be shipped and the vessel out on the lake, in some cases, inside of the hour, and after her clearance papers has been taken out, has hitherto seemed an insurmountable obstacle in the way of reporting the names of a part new crew. Yet, after all, there should be very little bother or annoyance felt if the master was requested to furnish the owner with a list of any changes made in his crew up to the last moment of leaving port, this in turn could be made over to the customs officials for compilation, and in the event of any casualty then happening to the vessel or crew, the exact names and particulars would be at hand. Considering the wide-spread benefit that might be derived from this information, we venture to say that there is not a master on the lakes who would consider it a trouble to so notify others of the changes taking place in his crew.

Years ago, when the Seamens' Union flourished, their representative at the port of departure could be relied upon to furnish the names of seamen, and even at the present time some valuable information regarding missing seamen shipped on schooners is taken from the register books of the Union, but, few of their members are now on steam and tow vessels, so that, even this means of identification is cut off, without any adequate arrangement being put in force to ascertain the particulars from any other source.

NATIONAL JURISDICTION OVER VESSELS.

The presidential election has again changed the aspect of political affairs, and possibly also that of the recent commercial rulings, but in the legislative sense of the phrase, in the direct line of a domestic marine policy, it is questionable if any new departures will be inaugurated during the years under which the president-elect will hold the reins of office.

The continued era of protection afforded our coastwise and inland marine has given to our country a home trade for all vessels second to none in the world, and one that is daily increasing in volume, capability and value. There are, of course, desirable changes required in the various branches of the service, or rather in the national method of supervising the same, and, in this connection, the recommendations of the recent International maritime conference, held at Washington, ought not to be lost sight of. To this end, the entire merchant marine of the United States would be better subserved by being placed under one general bureau having a cabinet minister at its head, and known as the board of commerce, trade, transportation or other similar term.

The disjointed bureau as at present constituted, or held apart, seems to aim at nothing in particular but a prolongation of ancient methods which ought to have been relegated to the bounds of desuetude years ago, on account of being entirely behind the age. No decisive steps, however, have been taken, although the better path has frequently been pointed out, and it is just possible that the deliberations of perhaps the most valuable technical conference that was ever called together on the face of the globe may be set at naught for a still longer period.

It is not, perhaps, an opportune time to dwell upon this subject at length, but we cannot refrain from again stating, that a system which permits a sailing ship to clear for a port in the antipodes, or elsewhere, with a valuable cargo, without the slightest official inspection or inquiry regarding the technical capability of those on board, while a steam yacht, small ferry or tug boat is not allowed to cross a creek without the above rules of inspection and personal or technical competency have been duly and fully complied with, requires changing. So much for the inspection portion of our maritime system.

An inspection board that only desires to partially inspect, itself requires inspecting, so as to ascertain if it is compatible with the best interests of the United States tonnage to allow a deck officer on a sail vessel a greater license than one on a steamer. As it now is, the former may abandon, strand, scuttle or collide to any extent, without being amenable to the navigation laws of the inspection service. On the other hand, if an officer on the deck of any steam craft even neglects to give a signal, he is subject to the penalty imposed for violating a United States statute, and may be debarred from earning his living in his chosen walk of life. Such absurdities as the foregoing require legislative action at the hands of those who are placed in charge of the national service.

STILL ANOTHER ARCTIC EXPEDITION.

Lieut. Peary, with his plucky wife and associates, has no sooner fairly returned from the last Arctic exploration cruise, than a young Norwegian scientist named Firdthof Nansen has planned a new route for determining that which so many have gone seeking for, only to meet with indifferent results.

Dr. Nansen evidently intends to make a thorough trial, as his vessel, which will have steam as well as sail power, is to be provisioned with sufficient food to maintain twelve men for a period of five years. Another possibly successful divergence is to be made in the route prosecuted, as Dr. Nansen, it is said, will take the path of the Polar stream and proceed north along the east coast of Noyaya Zemlya, a track which at certain seasons of the year the Doctor expects to find open to navigation, and one much more preferable in his opinion for the polar explorations than the Greenland route.

It is but a few years ago that an enterprising mariner who had perhaps visited the Kara Sea oftener, or at least could tell more about it, than any one else, furnished some interesting data to the scientific world regarding the currents and characteristics of that little used waterway. It is also assumed that he was the first and only seaman to trade with a merchant steamer from England to Yenisei, in northern Siberia, and evidently Dr. Nansen is disposed to follow the bent of this former navigator's course, with the distinction, however, of desiring to achieve the honors of original explorations rather than to barter in merchandise.

Whatever the outcome of the intrepid Norwegian's cruise may be, his expedition is not intended to be a hurried one, nor could there be found a more suitable leader for a polar voyage than one who is inured to the cold, bleak weather of the coast of northern Europe, and it is quite within the bounds of probability that this learned and hardy young Norwegian may achieve more than any of his predecessors in polar explorations.

BRAVERY MERITING REWARD.

The masters and crews of the schooners J. E. Gilmore and A. P. Nichols, speak in high terms of light-house keeper Martin Kunutzen, keeper of Pilot Island light at Death's Door entrance to Green Bay. These two schooners were both driven ashore during the hard gale which prevailed over the lakes two weeks ago, and their entire crews were saved through the individual skill and bravery of the Pilot Island light-house keeper. It is to be hoped that such representation will be made to General Superintendent S. I. Kimball, of the United States Life-Saving Service, that due recognition will be made of the light-keeper's bravery. As a class, there are no more heroic, self-sacrificing and reliable men in the world, than those in the service of the United States Light-House Board as light-keepers, and while several have already enjoyed the distinction of being presented with one or more medals in honor of their brave attempts to save life, it is of the greatest importance that all individual acts of skill and heroism should be acknowledged by the presentation of a national tribute in the form prescribed by the government.

PATENTS ON MARINE APPLIANCES.

Special to The Marine Record.

WASHINGTON, D. C.—Boat launching carriage, H. J. Woods, Muskegon, Mich.

Boiler water indicator, W. H. Rogers, Bay Side, N. Y.

Boiler oil injector, O. A. Enholm, New York, N. Y.

Hoisting device, A. L. Plotner, New Bedford, Mass.

Hose reel, R. D. Wirt, Independence, Mo.

State rooms, C. L. Lockwood, Covington, Ky.

Ship's steering apparatus, W. C. Williamson, Philadelphia, Pa.

Vessel, A. Werner, Brooklyn, N. Y.

Conveyer-barge storage vessel, F. H. Briggs, Cleveland, Ohio.

THE FREIGHT SITUATION.

This issue of THE RECORD finds the Escanaba ore rate veering between 85 and 90 cents to Ohio ports, with the latter rate ruling to Buffalo. Lake Superior ore rates are unchanged at last week's quotations, and shipments are showing a decrease.

The Duluth grain rate is quoted nominally at 4 cents, but vesselmen are loth to place capacity at that figure, and the feeling is that 5 cents must be paid to secure boats in this hard fall weather. At Chicago yesterday 3 cents was in some cases paid on wheat to Buffalo.

Coal rates show the independent variations incidental to the closing of the season. The Buffalo-Duluth hard coal rate is 35 cents, but other rates for the purposes of quotation are practically unchanged except that Buffalo shippers have in several instances paid 40 cents on cargoes to Toledo. The Chicago rate is 75 cents and the Milwaukee 70 cents from Buffalo, but to the latter port 65 cents has been accepted on soft coal, and 25 cents to Detroit. For St. Ignace, the Sault and other comparatively outside ports from the steady shipping lines the rates are made in each case by mutual agreement, or rather, whatever the shipper will agree to pay.

Lumber is of course looking brisk. Ashland to Chicago $3.75, and from east shore ports on Lake Michigan a shilling raise was paid on Saturday. Bay City and Menominee to Buffalo $2.50, though the rate from the latter port is expected to go up this week.

NEXT YEAR'S IRON ORE OUTLOOK.

Several ore contracts have been made to handle the product of the Mesaba range, which insure that the output will come into direct competition with that of all other ranges at the opening of lake navigation next year. Ore brokerage firms of Cleveland are, it is said, furnishing the leesees of the Mesaba mines the necessary capital to go on with the work, and agree to dispose of the product in the Cleveland markets, at the same time paying all freight by lake and rail and the brokerage and insurance. Oglebay, Norton & Co. will handle the output of the Mountain mine, which will be operated by the owners. Tod, Stambaugh & Co. will dispose of the output of the Ohio mine, and advance the working capital needed. P. L. Kimberly has arranged with the above named firm to handle the output of the Biwabik. The commission firm advanced $25,000 to work the mine, 25 cents a ton for putting the ore on the cars, and will pay all freights, while it gets 10 cents a ton commission and interest on money advanced. The ores of the Mesaba can be placed in Cleveland at a profit of $1 per ton on these terms, and it is believed that no other mine can compete with their ores in the open market. The Mesaba mines now under contract to ship next year with advance royalties include an outlay of nearly $300,000, and a minimum ore output of 1,500,000 tons.

The first shipment of ore from the Mesaba range reached Duluth October 18, over the recently completed Duluth, Mesaba & Northern.

"The mines of the new field that have to go underground will have," says Ishpeming *Iron Ore*, "an ore cost of at least $1.75 per ton. When to this is added 80c for rail and $1.25 for lake freight, 50c for royalty, and 15c for insurance, commission and trimming, it will be seen that the underground properties of the Mesaba cannot compete with the other ranges, working at much less cost."

Further than this the Duluth *News-Tribune* states that James Corrigan, of the well-known firm of Corrigan & Ives, of Cleveland, and F. A. Bates, of New York, returned recently from their extensive trip on the Mesaba range. The reason for this trip is now an open secret. Corrigan & Ives have contracted with the Standard Ore Co. to take care of all the ore which shall be taken out of the Cincinnati, Hale and Kenawha mines. The option on the Hale has been turned over to the Standard Ore Co. and the lease of the Kenawha to the same company will be closed in a few days. James Corrigan represents one of the largest iron ore firms in the United States and has immense interests in the Gobegic country. He also controls about a dozen lake vessels. Another member of the firm of Corrigan, Ives & Co. is Judge Stevenson Burke, of Cleveland, who has recently been elected president of the Standard Ore Co. He is president of three railroads and will be recalled as the man who bought out the Nickel-Plate road for the Vanderbilts. This contract means a good deal, for the ore company expects to ship next year 400,000 tons of ore. The spur of the Duluth & Iron Range is now completed to within half a mile of the Cincinnati property, and will reach there next week. A large force is now at work on the Hale, and a new steam shovel has been bought for stripping purposes. There are two car loads of ore in the Cincinnati stockpile awaiting shipment.

It should be added in connection with the contract above mentioned, that it covers all the advances on freight, mining and other expenses, these arrangements will necessarily have a strong bearing on the lake freight market of 1893.

THE LOST SCHOONER OSTRICH.

The lost schooner Ostrich which is now supposed to have been in collision with the steamer Gilcher, thereby causing a total loss to both vessels, had a crew of seven hands all told, composed of the captain, first mate, cook, and four men before the mast. The wife of Captain McKay accompanied him as cook. It is not known as yet who shipped as mate. Peter Olsen, aged twenty-six and unmarried, was one of the seamen. The casualty calls to mind the circumstances attending the total loss of the large Cunard Steamer Oregon, which through a mysterious collision with a schooner, went down almost without giving a fair warning and in much the same way as the Gilcher must have gone. Captain McKay master and owner of the schooner Ostrich, was a peculiar character. He could neither read nor write, yet managed to get along very well with business. His first known command commenced with the worn-out schooner Two Brothers, and after quitting her he embarked for himself in the small scow Trio. He next bought the scow Petrie. Selling these two vessels, he purchased the City of Erie, which he traded for the Ruby. From the Ruby he flitted into the Hattie Earl, and then the J. B. Prime. By the sale of his interest in the Prime he secured interests in the W. H. Chapman and Len Higby, which were disposed of to purchase the Ostrich.

SUBSIDIZED MAIL SERVICE.

It is now learned that the Canadian Pacific railway company decline to enter into an agreement with the government for the fast line Atlantic Steamship company between Canada and Great Britain for a period longer than ten years. In addition to an annual subsidy in the neighborhood of three quarters of a million dollars which the company is asking, it is demanding a transfer of the Inter-Colonial railway from the government to the Canadian Pacific railway. It is pointed out that with the free title to the Inter-Colonial the Canadian Pacific management could float bonds for an amount largely in excess of what its steamers for the fast line service would cost it, and while the government would have no guarantee that the service would be continued after three years the latter would find it at the expiration of that term without the railway, and possibly the Canadian Pacific folks refusing to renew the charter.

THE GILCHER SUNK IN COLLISION.

Special Correspondence to The Marine Record.

CHICAGO, ILL.—The steambarge Hattie B. Pereue, arrived here on Wednesday morning from South Manitou Island. Captain Stuffelbaum made careful examination of all the wreckage on the island. "I found," said he, "the strong backs which held the canvas covers of the Gilcher life boats among the wreckage. They had been cut in two with an axe, which clearly indicated that the crew had rushed to the lifeboats in great haste, and did not have time to pull off the canvas covering in the ordinary way. From the fact that the life boats have not been found since, it seems probable that the Gilcher went down before there was time to free them from the davits. The wreckage of the steamer and the schooner Ostrich lie on the beach not a hundred feet apart." And this may be considered the most conclusive evidence that the schooner and Gilcher had been in a collision.

A NEW FEATURE IN BOAT BUILDING.

What appears to us a novel construction for small boats has recently been brought out in Glasgow, and has excited much interest in shipping circles. It is built of two sheets of thin Siemens-Martin steel, pressed to the exact model of the desired size of boat, and riveted together with a steel bulb between them forming the stern, keel and stern-post; it fully justifies the name assigned to it by its constructors: "A steamless steel boat." In the maritime world a boat of such composition and construction has long been looked for, and its advent will be held as a desideratum, since it appears to embody the qualities requisite for the safe handling of boats in all weathers and under the most adverse circumstances, combined with neatness and facility for stowage on shipboard. A company has been formed for the manufacture of the boats, which can be galvanized and painted with enamel or other composition. The gunwale, strakes and bottom bars are fitted in the usual manner, and a strong hook and ring bolt is fitted on each end for the reception of the boat mooring tackles or mooring gear. Cutters are fitted with buoyancy cases in bow and stern to ensure flotation even though the boat be filled with water. Lifeboats are, in addition, fitted with the usual buoyancy cases in conformity with the requirements of the inspection survey.

WHALEBACK SHIP BUILDING AT EVERETT, WASH.

Preparations for building the new whaleback at Everett, Wash., is now going on at the American Steel Barge Co. Works. It is found necessary at the very outset to erect a new building under which the work on the new steamer can be prosecuted. Orders have been given for constructing a building 80 feet wide and 380 feet long, and proposals are now being received from the lumber manufacturers for furnishing the lumber required. It is understood that this building will be located near the river. In one end rooms will be fitted up for a small workshop. The other end will be so arranged that the steamer can slide out on the ways into the water. It will take several days to get this building in readiness, but in the meantime work in the other departments of the large plant is going forward, and as soon as the details for the big steamer are received and the necessary material is on the ground there will be industrial music about the barge plant. It will be remembered that the new steamer is to be 360 feet in length, so that it will take up nearly the entire length of the building.

BRAVERY OF A LIGHT-KEEPER.

CHICAGO, ILL.—Martin Kanutzen, keeper of the lighthouse on Pilot Island, at Death's Door entrance to Green Bay, saved two entire crews of vessels which stranded on Pilot Island during the recent gales. The first was the schooner J. E. Gilmore, and the second was the schooner A. P. Nichols. Captain D. E. Clow, together with the crew of the Nichols, reached here Monday.

"We were bound," said Captain Clow, "from Chicago to Escanaba, light, and were driven upon Pilot Island. We had both anchors out, but they failed to hold us, and we were driven upon the rocks. As soon as she struck the seas went over from stem to stern, and it seemed as if none of us could escape. The boat was lying on a reef of rock with deep and shoal spots all around. Kanutzen came down from the light house, and although it was eight o'clock at night and intensely dark, he picked his way through the surf and along a ledge of rocks, which came nearly to the surface and stood near to us.

"He made himself heard above the storm and told me to jump overboard. I did so, and went in far over my head. As I came up, he reached out for me from the shelf of rock where he stood, and pulled me up near him. The other members of the crew jumped in one by one, Kanutzen seizing them as they came to the surface and pulling them safely to the spot where he stood. My aged father and the female cook jumped overboard in the same way. He carried these ashore, picking his way along the ledge, which was crooked and uncertain. The rest of us followed him, and all got ashore in safety. A single misstep would have carried us into deep water. All this time the sea was running heavy, and it was with the utmost difficulty that we could stay on our feet.

"When we reached the light house we found that the crew of the Gilmore had been there a week, and were told that they had been saved in the same way that we had been saved. The two crews made big inroads on the provisions of the light house keeper, and had not the sea gone down so that we could get the provisions from our boats we might all have starved."

The crew of the Nichols were obliged to remain a week on the island before they could be taken to the mainland and make their way to the nearest railway station. The light houre keeper took Captain Clow out in a little sailboat, notwithstanding a gale was blowing, to the steamer Outhwaite, which landed him at Escanaba, where he was enabled to telegraph home. Both the Nichols and the Gilmore are total losses.

A WONDERFUL MAGNET.

It is believed that the largest and strongest magnet in the world is that at Willett's Point, New York. It came to be made by accident. Major King happened to see two large 15-inch Dahlgren guns lying unused side by side on the dock, and immediately conceived the idea that a magnet of enormous power could be constructed by means of these cannon, with a submarine cable wound around them. The *Chicago Railway Review* is responsible for the following remarkable statement. It says that "the magnet, which stands about ten feet from the ground, is 18 feet long and has eight miles of cable wound around the upper part of the guns. It takes a force of 25,000 pounds to pull off the armature. A seemingly impossible experiment was performed with some 15-inch solid cannon-balls, the magnet holding several of them suspended in the air, one under the other. The most interesting experiment was the test made of a non-magnetic watch. The test was highly satisfactory. The magnet was so powerful that an ordinary watch was stopped stock still as soon as it came within three feet of it, while an American non-magnetic watch was for ten minutes held in front of the magnet, and it did not vary the hundredth part of a second. A sledge-hammer wielded in a direction opposite to the magnet, feels as though one were trying to hit a blow with a feather in a gale of wind."

THE "Serve" ribbed boiler tubes, after standing very satisfactory tests in the Atlantic steamer Pennsylvania, are also to be placed in the Inman and International Line steamers now building on the Clyde. The Bedouin Steamship Company's new steamer Sheik, the Allan Line steamer Polynesian, and a new steamer of the Nautilus Steamship Co. are also recent instances in which the "Serve" tubes have been adopted.

TRIAL TRIP OF STEAMER "CHICORA."

The trial trip of this fine new boat was made on the steamer's regular trips between Chicago and St. Joseph, a distance of 60 miles. Two runs were made. The first trial was made for the purpose of ascertaining the maximum power of the machinery. A strong head wind was blowing with no sea on. Steam was kept up to 160 pounds, with full throttle. Cards were taken every hour throughout the trial. Steam, vacuum, revolutions, air pressure and temperature of chimney were noted with each set of cards taken.

The engine was kept at full speed for about one and one-fourth hours. No difficulty was experienced in keeping full pressure of steam in the boilers, with an air pressure of 1⅝ inches at the fan, and ⅝ inch in the ash pit.

It was found that, in order to reduce the speed to about 94 revolutions per minute without throttling, the H. P. valve had to be linked up to full extent of arm, and at 88 revolutions all three valves had to be linked up.

The second trial was made for the purpose of finding the best point of cut-off, to obtain as nearly as possible an equal distribution of power in the cylinders.

The best results were obtained by working the int. in full gear, and linking up the L. P. 1 inch from full gear.

As no means were at hand for weighing or measuring the coal, no account was taken of amount used during trials. The Detroit Dry Dock Co., builders of the new passenger steamer, furnish us with the following particulars:

DIMENSIONS.

Length over all	209 ft.
Length keel	196 ft. 4 in.
Breadth	34 ft. 8 in.
Depth	15 ft. 3 in.
Mean Draft at trial	9 ft. 8 in.
Displacement at trial	1240 tons.

ENGINE.

Cylinder's diameter	20 in., 33 in. and 54 in.
Cylinder's stroke	42 in.
Propeller diameter	11 ft.
Propeller pitch	17 ft.

BOILERS.

Number	2.
Diameter	12 ft.
Length	11 ft. 6 in.
No. of Furnaces, each boiler	2.
Diameter of Furnaces	3 ft. 7 in.
Grate area, square feet	82.32
Heating surface, square feet	3162.64
Ratio, heating to Grate, square feet	37.7 to 1.
Howden's system of forced draft	
Diameter of Fan	48 in.
Area of Air Main, square inches	576.
Size of Fan Engine	7x7 in.

PERFORMANCE.

	Maximum	94 Rev.	88 Rev.
Boiler pressure, pounds	160.00	160.00	160.00
Vacuum, inches	21.00	21.½	21.½
Revolutions per minute	102.00	94.00	88.00
Indicated horse-power, H. P. Cylin'r	292.69	299.73	230.77
" " " Int. "	563.66	444.77	317.50
" " " L. P. "	648.63	453.45	393.73
Total	1504.98	1197.95	942.00
Rev. of Fan, per minute	.470	.470	.470
Rev. of Fan, Engine, per minute	.220	.220	.220
Temperature of Chimney, Fah.	630°		580°
Heating surface per I. H. P., sq. ft.	2.10	2.64	3.35
I. H. P. per sq. ft. of Grate	18.16	14.55	11.44
Air Pressure, Ash Pit, ins. water	6.625	.625	.625
Air Pressure, Main, ins. water	2.625	2.875	2.875

Distance run, miles	60
Running time, hours	4
Speed of Vessel, miles per hour	15
Slip of Propeller, per cent.	17.3

Result obtained by working int. full and linking L. P. up to 1 inch from full gear.

Boiler Preasure, pounds	160
Vacuum, inches	21.5
Revolutions per minute	96
Indicated horse-power, H. P. Cylinder	324.67
Indicated horse-power, Int. Cylinder	437.88
Indicated horse-power, L. P. Cylinder	480.35
Total	1242.90

MARITIME LAW.

WHERE VESSELS SHOULD DELIVER THEIR CARGOES.

The shipper of goods by a general ship has no right to expect that his convenience is to be regarded by the carrier as paramount to that of others who may send their goods on the same voyage to the same port; and before he can complain of the place of a delivery, when it is a place within the port reasonably convenient for all the consignees, he must show the existence of some usage requiring a delivery elsewhere. When such usage is shown the law implies that all interested—shippers, consignees and carrier—have consented to be bound by it. But in the absence of such usage, when there are several consignees, the carrier's duty is satisfied by a delivery at a place suitable and reasonably convenient for all. So the custom of a port requiring cargoes of tea to be discharged in the "tea district" does not apply to a general ship, a minor portion of whose cargo consists of tea; and where such ship endeavored without success to obtain a berth in such district and afterwards secured a berth elsewhere, which was acceptable to the consignees of the rest of the cargo, she was not liable for the increased cost caused by discharging the tea there.—Carter vs. the Mascotte, U. S. Circuit Court of Appeals, Second Circuit, 51 Fed. Rep. 606.

NEW SECRETARY FOR THE LIGHT-HOUSE BOARD.

Commander Robley D. Evans has been ordered to duty as naval secretary of the light-house board on the 30th inst., relieving Commander George W. Coffin, who is granted one year's leave on being relieved.

RECEIVING BIDS.

According to their usual custom the representatives of the English underwriters, who have the entire insurance risk on the steel steamer Tuscarora, recently stranded at the mouth of Detroit River, determined to receive tenders from Detroit, Cleveland and Buffalo shipbuilders for repairs on the steamer. It will probably be the last of the week before the bids are all received, and a decision is reached. The Tuscarora's bottom is in extremely bad condition. She will do no more work this season. Manager John Gordon chartered the steamer Hopkins to take the dry freight to Buffalo, although it is nearly all damaged and warehoused in Detroit.

NOTICE TO MARINERS.

(No. 100, of 1892.)

UNITED STATES OF AMERICA—NORTHERN AND NORTH-WESTERN LAKES.

CHICAGO OUTER BREAKWATER (N. W. END) LIGHT.—Notice is hereby given that, on October 19, 1892, the fixed white lens-lantern light on the N. W. end of the Outer Breakwater, Chicago Harbor, Illinois, was removed to the Emergency Intake Waterworks Cribs, an extension northwesterly of the outer breakwater. The focal plane of the light is now 45 feet above lake level.

By order of the Light-House Board: JAMES A. GREER, Rear-Admiral, U. S. Navy, Chairman.

Office of the Light-House Board, Washington, D. C. Nov. 2, 1892.

(No. 99, of 1892.)

UNITED STATES OF AMERICA—NORTHERN AND NORTH-WESTERN LAKES.

CONNEAUT PIERHEAD LIGHT.—Notice is hereby given that, on or about November 10, 1892, a fixed white light will be shown from a lens lantern suspended from a post, about 15 feet above lake level, on the outer end of the west pier at Conneaut, Lake Erie, Ohio.

The light will be visible, in clear weather, about 5 statute miles.

By order of the Light-House Board: JAMES A. GREER, Rear-Admiral, U. S. Navy, Chairman.

Office of the Light-House Board, Washington, D. C., Oct. 28, 1892.

(No. 103, of 1892.)

UNITED STATES OF AMERICA—NORTHERN AND NORTH-WESTERN LAKES.

MILWAUKEE LIGHT.—Notice is hereby given that, on or about December 4, 1892, the light at Milwaukee Light-Station, near extreme N. point of Milwaukee Bay, western shore of Lake Michigan, Wisconsin, will be changed from a fixed white light, varied by a white flash every two minutes, to a fixed white light, varied by a white flash every forty-five seconds.

The order of the light will not be changed.

By order of the Light-House Board: JAMES A. GREER, Rear-Admiral, U. S. Navy, Chairman.

Office of the Light-House Board, Washington, D. C., Nov. 4, 1892.

(No. 105, of 1892.)

UNITED STATES OF AMERICA—NORTHERN AND NORTH-WESTERN LAKES.

KENOSHA (SOUTHPORT) LIGHT.—Notice is hereby given that on or about December 6, 1892, the light at Kenosha (Southport) Light-Station, on Warrenton Island, north side of the entrance to Kenosha Harbor, western shore of Lake Michigan, Wisconsin, will be changed from a fixed white light varied by a white flash every 90 seconds to a fixed white light varied by a white flash every 45 seconds.

The order of the light will not be changed.

CHANGE IN NOTICE TO MARINERS, NO. 99, OF 1892.

It has been determined to place the light to be established November 10, 1892, on the outer end of the west pier at Conneaut, Lake Erie, Ohio, at an elevation of 20 feet above lake level, instead of 15 feet as heretofore stated.

By order of the Light-House Board: JAMES A. GREER. Rear-Admiral U. S. Navy, Chairman.

Office of the Light-House Board, Washington, D. C., Nov. 7, 1892.

NOTES.

THE Pillsbury-Nahant and the Briton-Progress collision cases have been settled. Two other cases which were considered at the conference of underwriters held at Chicago last week will probably be settled in a few days.

CRUISER No. 6 was successfully launched at the Union Iron Works, San Francisco, Cal., on Saturday morning. The cruiser was christened Olympia by Miss Bella Dickie, daughter of George W. Dickie, manager of the iron works. The weather was fair and the launching was witnessed by fifteen thousand people, a large number of these being civic, naval and military officials.

So long as the General Government withholds assistance due its merchant marine service, Americans cannot hold their heads higher than the schoolboy who stands in a corner wearing an ignominious dunce cap. To boast of our superiority over Great Britain or any other nation which has ten times as much steam tonnage and nearly four times the number of sail vessels, is simply braggadocio, unworthy of an enlightened people. It is a blot upon the record of a nation that enjoyed the golden opinions of the world in generations past.—*Philadelphia Maritime Register.*

DURING the financial year ending June 30, 1892, 64 vessels, representing 83,223 net registered tons, mainly steel steamships, have been added to the lake fleet, at a cost of $7,911,000. Of the total United States tonnage launched in 1889, 46 per cent. was on the Great Lakes, 41 per cent. on the Atlantic coast, 8 per cent. on the Pacific coast, 5 per cent. on the western rivers. The capacity and power of many of these vessels have been indicated by General Poe as follows: "The increase in the available depth of channels on the lakes, from 9½ feet in 1852 to 16 feet in 1882, developed this commerce, and it is only reasonable to expect that a further increase of 4 feet will be followed by a corresponding increase in the shipping. The results are more notable, perhaps, in the character of the vessels employed in the carrying trade. These have increased in size and seaworthiness until they form a fleet which has not its equal upon any inland waters on the face of the globe."

THE *Scientific American*, in offering some suggestions to inventors, in its latest edition, says: "Bicycles, although brought to great perfection, seem to us to require something neater and better than the endless chain and sprocket wheel for connecting the crank shaft and drive wheel. Row-boats, especially such as are used by seagoing vessels, ought to be provided with better means of propulsion than the ancient oar. Such means should be something like the modern screw propeller, substituting man power for steam power. The important part of this invention would lie in the motor to be operated by the men. It should be very simple and so constructed that, although unused and exposed to the weather, it wonld still be ready for instant use at any time. The same device would apply to pleasure boats." There would seem to be ample grounds for the inventive genius to turn his attention to a feature of this description, keeping in mind the stability and sea-worthiness of the oar principle, as well as the mode of propulsion.

PROPOSALS.

U. S. ENGINEER OFFICE, HICKOX Building, 185 Euclid Avenue, Cleveland, O., November 1, 1892. Sealed proposals for dredging in straight channel through Maumee Bay, for Toledo Harbor, Ohio, will be received at this office until 2 o'clock, p. m., of Thursday, December 1, 1892, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. JARED A. SMITH, Corps of Engineers, U. S. A. 10-24

U. S. ENGINEER OFFICE, 34 WEST Congress st., Detroit, Mich., November 9, 1892. Sealed proposals for furnishing all labor, materials, and appliances, and excavating a ship channel 20 and 21 feet deep between Chicago, Duluth and Buffalo will be recived at this office until 2 p. m., standard time, on the following dates, and then publicly opened: For third section, Sailors' Encampment, on December 9, 1892; for seventh section, Grossepoint Flats, on December 10, 1892; for sixth section, St. Clair Flats, on December 12, 1892; for eighth section, mouth of Detroit River, on December 13, 1892; for second section, Little Mud Lake, on December 14, 1892; for fifth section, foot of Lake Huron, on December 15, 1892; for fourth section, Mud Lake Shoal, on December 16, 1892; for first section, Round Island shoals, on December 17, 1892. Specifications, blank forms, and all available information will be furnished on application to this office. O. M. POE, Colonel Corps of Engineers, Bvt. Brig.-General, U. S. A. 11-10—12-1.